IDAHO SUPREME POTATOES, INC.
TIER II PTC APPLICATION

Submitted to:
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706

Prepared By:

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April 2, 2007

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1.0 Introduction and Overview

Idaho Supreme Potatoes Inc. (Idaho Supreme) is submitting a Tier II PTC application to revise their current Tier II Operating Permit. Idaho Supreme is currently operating under Tier II Operating Permit (OP) # 011-00013, which expires June 7, 2007, and a Consent Order dated December 20, 2004. In the current Tier II OP Boiler #3 and Boiler # 4 are permitted to burn residual fuel (#s 4, 5, or 6) with very low sulfur fuel (≤0.5% sulfur) and distillate fuel oil #2 along with the flexibility to burn natural gas and propane. However, the Consent Order allows Idaho Supreme to burn fuel with a sulfur content of 1.75% or less.

In addition to the currently permitted fuels, Idaho Supreme proposes to burn coal in the #4 Boiler and to employ a baghouse for post-combustion particulate control. Idaho Supreme also proposes to combust residual fuel oil with a maximum sulfur content of 1.69% by weight in Boiler #4. Distillate fuel oil with a maximum sulfur content of 0.5% by weight is also proposed to be combusted in Boiler #4.

The proposed throughput for coal in Boiler #4 is 5.4 tons/hr with an annual throughput of 47,286 tons with an average sulfur content in coal of 0.5%.

The proposed liquid fuel throughput for Boiler #4 is 650 gallons/hour, which is maximum capacity. Idaho Supreme is proposing an annual throughput limit of 1,868,750 gallons when burning fuel oil at 1.69% sulfur. However, for lower sulfur fuels, the annual throughput limitation (gal/yr) in Boiler #4 is proposed to be increased such that the SO_2 emission rate in ton/year is equivalent to the SO_2 emission rate at the reduced throughput and increased sulfur content. For Boiler #3, Idaho Supreme is limiting combustion to natural gas and propane. Idaho Supreme requests that natural gas and propane still be consumed at maximum emission unit capacities and throughputs for both Boiler #4 and Boiler #3.

Space heaters north, south, east and miscellaneous are emission sources that have hours of operation limited at 6,048 hr/yr. Idaho Supreme is maintaining their hours of operation status of 8,760 hours/year for the fluidized bed dryer. The dehydration lines (each of the 17) are permitted to operate 6,912 hours/year.

Idaho Supreme is requesting to remove New Source Performance Standards (NSPS) Subpart Db requirements prescribed of Boiler # 4 in OP # 011-00013. EPA has confirmed that NSPS is not applicable for coal burning in a letter dated December 19, 2006.

DEQ issued a Consent Order to Idaho Supreme to allow the operation of the boiler with the NSPS restrictions. Idaho Supreme is operating under the Consent Order issued December 16, 2004.

The following permits have been issued for Idaho Supreme:

- Tier II Operating Permit No. 011-00013, issued December 23, 1998.
- Tier II Operating Permit No. 011-00013, issued June 7, 2002.

2.0 Facility Classification

The Idaho Supreme Potatoes, Inc. facility is not a designated facility, as defined by IDAPA 58.01.01.006.27. The modifications in the current Tier II OP make Idaho Supreme a Title V major facility for SO_x because the potential to emit (PTE) is greater than 100 tons a year. The facility is not a Prevention of Significant Deterioration (PSD) facility as no criteria pollutant will have a net emissions increase of 250 ton/yr or greater. Included in section 5.7 is a PSD applicability analysis and netting calculations are included in section 5.8.

2.1 Facility Description

Idaho Supreme Potatoes Inc. is a potato processing company. Their process primarily involves potato dehydration to make potato flakes. This process includes dryers, flakers and silos, which are also sources of emissions. Description of the process is given in Section 3 below.

2.2 Facility Location

The Idaho Supreme facility is located in Bingham County, Firth, Idaho, Corner of Highway 91 and 800 Goshen, at Universal Transverse Mercator (UTM) Zone 12 coordinates of 404.8 km east, 4795.9 km north. The exact location in relation to the surrounding area is shown in Figure 2-1. Site plans are shown in the modeling report included in section 8.

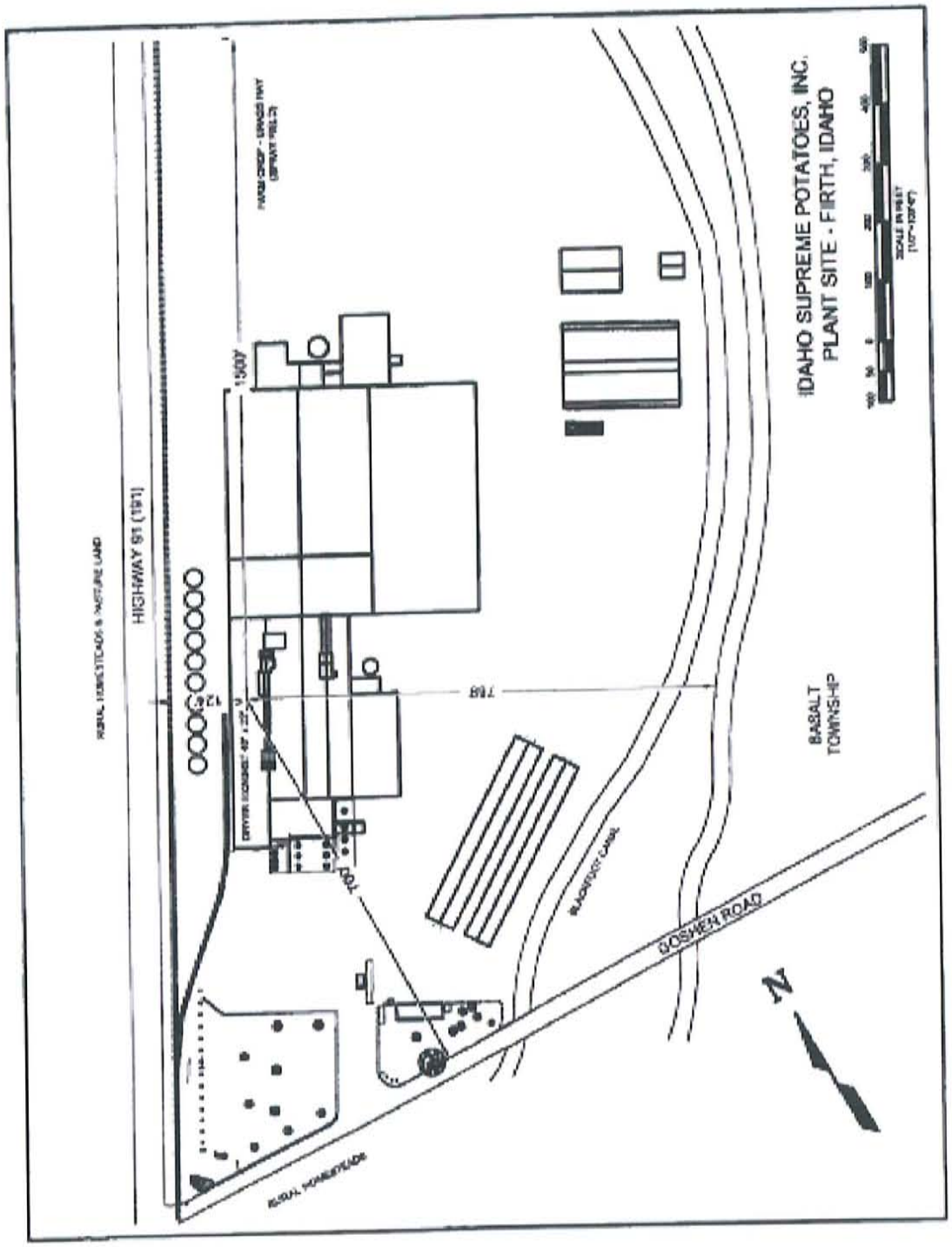

Figure 2-1 Idaho Supreme Facility Location

3.0 Process Description

3.1 Potato Processing

Initially potatoes are received at the plant on trucks and are unloaded across pilers into temporary storage bins. They are taken from the bins for the process using cold water to transport and wash the potatoes. This removes silt and rocks from potatoes. The potatoes are conveyed to a tare removal table where rot, sticks and other debris are removed.

The potatoes enter a steam peeler, where they are exposed to steam for a brief period of time. This loosens the peeling prior to the washing stage. The steam is exhausted and quenched in a water bath. Excess steam may exhaust out the roof but most, if not all, of the steam is quenched by cool water and sent to land application. The peeling is fully removed by dry and wet scrubbing which is done by revolving brushes and can include water sprays. Waste products from this process are used for cattle feed.

The peeled potatoes travel across a trim table where workers cut off, remove and discard defective parts of the potato and peel that has not been removed. The potatoes are held in a surge bin and released at a metered rate for proper slicing. The product is then pumped to precookers or blanchers. The pre-cooker blanches the potatoes in hot water.

This operation gelatinizes the starch. Potatoes are then cooled to retrograde the starch gelatinization for better texture and taste. The potatoes are water transported into cookers where they are exposed to atmospheric steam to fully cook the potato. The potatoes are riced, forced through slots and broken into smaller pieces like mash, and added to the dehydration rolls.

The mashed/riced potatoes are spread across the face of the drum dryers with five applicator rolls. Only whole cells stick to the drum. The steam drum dryer rotates and drives the moisture from the potato cells. The main dehydrated moisture is removed from the drum dryer stack. Excess moisture is removed by a steam snifter fan, which keeps dehydrated moisture from rehydrating final product.

The dried potato sheet is cut off the drum and broken into smaller pieces. Good flake goes to mills where it is cut into desired particle size and density (as required by our customers) and air transported to product separation baghouses. The flake is then bagged, placed into large totes for storage and transport, reblended for texture and quality, or sent to silos for storage.

The slice line dehydrates potato slices into slices for instant foods, like Au Graten or Scallops. The process is identical up to the blanching/cooking stage. The slices are then blown down or up through to dehydrate the slices to a shelf stable product. The potato slices are piled thin in A stage, thicker in B stage and thickest in C stage. Slices are then sorted and shipped in bags or totes. Slices that are not dehydrated to shelf stable product can be finished or dried in the secondary dryer, or used as byproduct for dog food.

Potato flake is layered into the single unit fluidized bed dryer (FBD) that was installed in the existing facility. Potato flakes, with moisture content of approximately 7%, are metered from

onsite process and storage units into a mixing unit. In the same mixer, liquid additives are applied through pressure sprays at room temperature ahead of the dryer body.

The treated moist flake now has moisture content of approximately 30%. The flake is then metered into the FBD, where it passes through three compartments. The first two are heated, and the third compartment is a cooling stage. The resulting product is collected and repacked according to customer specifications. Two Maxon burners provide the required heat for final dehydration. These operate at a maximum rate of 3.5 million BTU per hour. Product drying rate sets the actual heat input demand.

3.2 Boiler Operation

Idaho Supreme proposes for Boiler #4 to combust coal with a maximum hourly throughput of 5.40 tons and an annual throughput of 47,286 tpy coal at 0.5% sulfur. Boiler #4 will operate a baghouse when burning coal to control post-combustion particulate emissions.

Boiler #4 is proposed to also operate on residual fuel (#s 4, 5 or 6), distillate fuel #2, natural gas or propane. Residual and distillate fuel is proposed to be burned with a maximum of 1.69% and 0.50% weight sulfur respectively. Boiler #4 has a maximum hourly fuel throughput of 650 gal/hr and an annual limitation of 1,868,750 gallons when burning fuel oil at 1.69% sulfur. Annual throughputs for fuel oil with reduced sulfur contents are listed in Table 3-1.

Boiler #4 has a rated heat input capacity of 140 million BTU/hr. The boiler has a low NOx burner (CSI NOx Mizer).

Boiler #3 is permitted to fire on natural gas and propane only. The rated heat input capacity of the boiler is 43 million BTU/hr if natural gas is used as the fuel. The boiler has a low NOx burner (CSI NOx Mizer).

3.2.1 Fuel Consumption Flexibility for Boiler #4

Idaho Supreme proposes to have the flexibility to burn coal with an average sulfur content $\leq$0.5% by weight as well as fuel oil with various sulfur content. This application shows that the boiler can burn coal at an hourly capacity of 5.4 ton/hr and fuel oil at the hourly capacity of 650 gal/hr and demonstrate compliance with the NAAQS and not trigger PSD requirements. For lower sulfur fuel oils, the annual maximum gal/yr in Boiler #4 is proposed to be increased such that the SO_2 emission rate in ton/year are equivalent to the SO_2 emission rate at the reduced throughput load. The equivalent fuel consumption with various levels of sulfur is shown in the table below:

Table 3-1 Boiler #4 Equivalent Fuel Consumption at Different Levels of Sulfur in Fuel for Demonstrating Compliance with NAAQS

Coal			
Average % Sulfur in Fuel	Annual Hours, hr/yr	Hourly Fuel Throughput, lb/hr*	Annual Fuel Throughput, ton/yr
0.50%	8,760	10,796	47,286
*5.4 ton/hr = Capacity of Boiler #4			

Residual Oil # 6			
% Sulfur in Fuel	Annual Hours, hr/yr	Hourly Fuel Throughput, gal/hr*	Annual Fuel Throughput, gal/yr
0.50%	8,760	650	5,694,000
0.75%	6,480	650	4,212,314
1.00%	4,860	650	3,159,236
1.25%	3,888	650	2,527,389
1.50%	3,240	650	2,106,157
1.69%	2,875	650	1,868,750
*650 gal/hr = Capacity of Boiler #4			

Residual Oil # 5			
% Sulfur in Fuel	Annual Hours, hr/yr	Hourly Fuel Throughput, gal/hr*	Annual Fuel Throughput, gal/yr
0.50%	8,760	650	5,694,000
0.75%	6,480	650	4,212,314
1.00%	4,860	650	3,159,236
1.25%	3,888	650	2,527,389
1.50%	3,240	650	2,106,157
1.69%	2,875	650	1,868,750
*650 gal/hr = Capacity of Boiler #4			

Residual Oil # 4			
% Sulfur in Fuel	Annual Hours, hr/yr	Hourly Fuel Throughput, gal/hr*	Annual Fuel Throughput, gal/yr
0.50%	8,760	650	5,694,000
0.75%	6,783	650	4,408,889
1.00%	5,087	650	3,306,667
1.25%	4,070	650	2,645,333
1.50%	3,391	650	2,204,444
1.69%	2,907	650	1,889,550
*650 gal/hr = Capacity of Boiler #4			

Distillate Oil # 2			
% Sulfur in Fuel	**Annual Hours, hr/yr**	**Hourly Fuel Throughput, gal/hr***	**Annual Fuel Throughput, gal/yr**
0.50%	8,760	650	5,694,000
*650 gal/hr = Capacity of Boiler #4			

An initial ambient impact analysis was performed for the facility wide permit application submitted February 25, 2005 (now withdrawn and replaced by this application). The February 2005 modeling report showed compliance at 1.69% sulfur at 650 gal/hr and 1,868,750 gal/yr.[1] The modeling addendum submitted in this application shows compliance with coal combustion at 5.4 ton/hr and 47,286 tpy. Therefore Idaho Supreme will demonstrate compliance for all fuel throughput values shown in Table 3-1.

Idaho Supreme proposes to demonstrate compliance with the annual emission limits in this application by keeping track of monthly fuel consumption and sulfur content, and applying these to AP-42 emission factors used in this application. The proposed permit conditions are discussed in Section 10.0 of this application.

3.3 Fluidized Bed Dryer

This process line received an exemption from DEQ in early calendar year 2001 for 3,000 hours/year operation, but is now permitted for 8,760 hours/year of operation. This is a single unit fluidized bed dryer (FBD). Two Maxon burners provide the required heat for final dehydration. Each of these burners will operate at a maximum rate of 3.5 million BTU per hour.

The maximum input to the process is 2,000 lb/hr. This amounts to approximately 1,300 pounds of potato flake and 700 pounds of additives (additives are approximately 70% water by weight).

[1] At the time of modeling, the sulfur content during source testing was not known, so the maximum allowable sulfur content of 1.75% was used to demonstrate compliance.

3.4 Equipment List

The equipment list is:

1. Boiler #4
2. Boiler #3
3. BD21X3 fluidized bed dryer
   - Two Maxon 435 Oven Pak II natural gas, or propane, burners (each of the two burners is rated at 3.5 million BTU per hour)
4. Mixer vessel
5. Miscellaneous tanks and pumps for liquid ingredients
6. Enclosed conveyors for product transportation
7. Bulk bagging station for product collection
8. Tanks
   - One portable 16,000 gallon tank, also known as a day tank, with a heated line and a specialized pump.
   - Two tanks with a capacity of 30,000 gallons are installed for fuel oil storage.
9. Silos
10. Flakers
11. Dryers A, B and C
12. Secondary Dryer
13. Space Heaters

3.5 Process Flow Diagram

Process flow diagrams are shown in Figures 3-1 to 3-2:

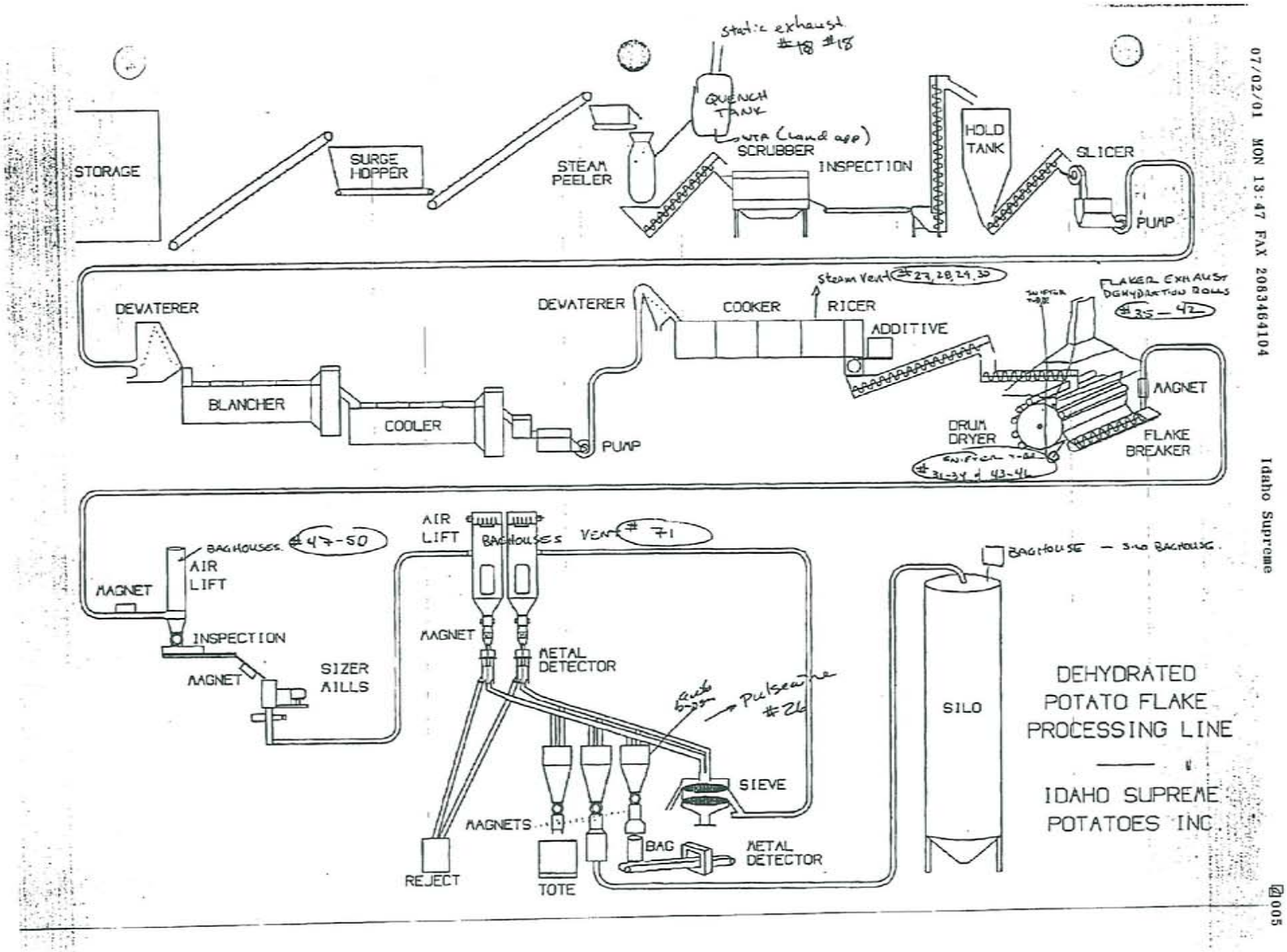

Figure 3-1 Potato Flake Processing

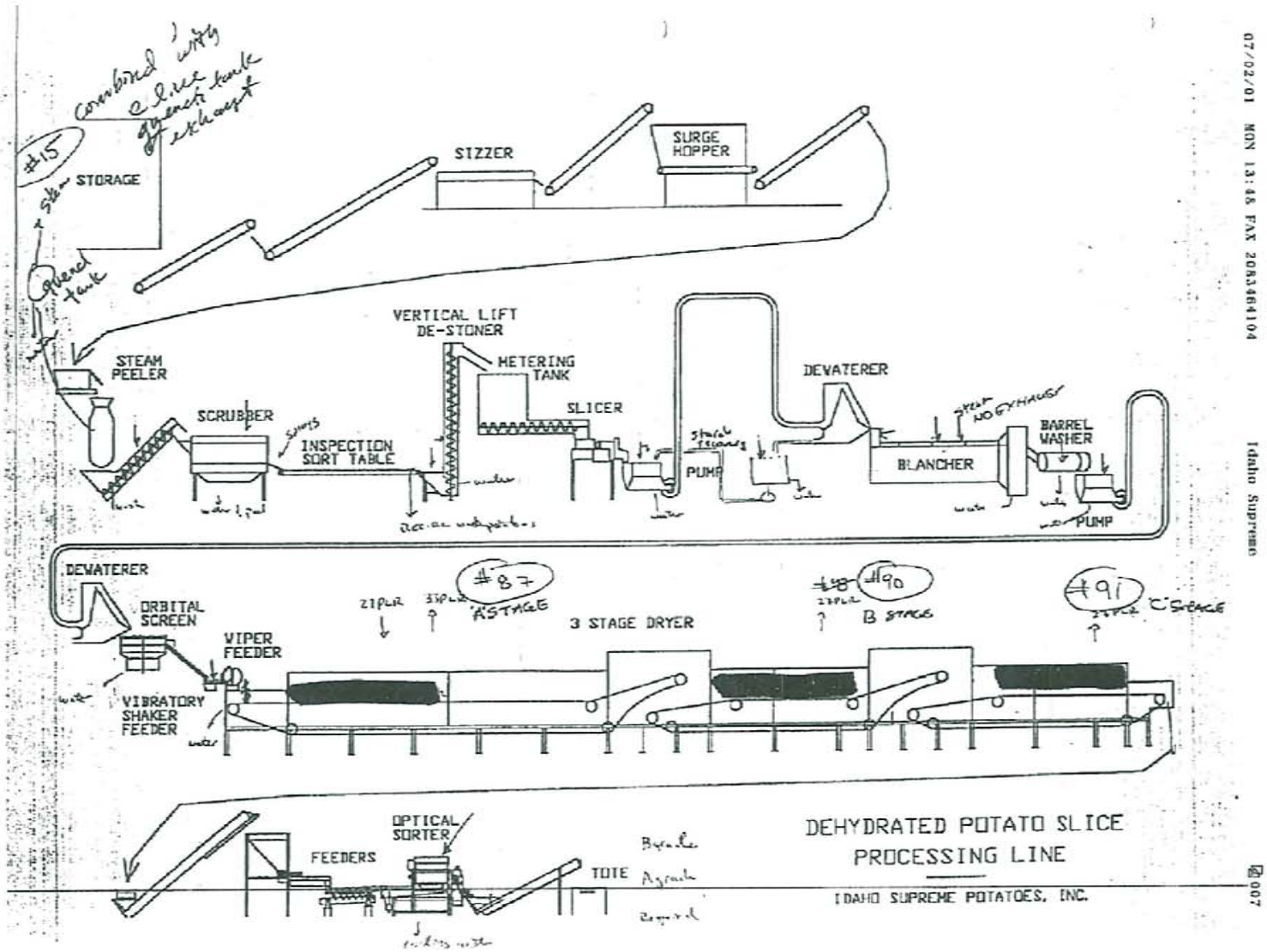

Figure 3-2 Potato Slice Processing

4.0 Permit Application Forms

Permit to construct forms are being submitted with this application for equipment requested to be modified.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 1
01/11/07

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Idaho Supreme Potatoes, Inc.		
2. Facility Name	Firth Facility	3. Facility ID No.	011-00013
4. Brief Project Description - One sentence or less	Tier II PTC application to modify boiler operations		

PERMIT APPLICATION TYPE

5. ☐ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source
☒ Modify Existing Source: Permit No.: 011-00013 Date Issued: June 7, 2002
☐ Required by Enforcement Action: Case No.: _____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☐	☒	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	☐
☐	☒	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	☐
☒	☐	Form EU5 – Boiler Information Please Specify number of forms attached: 2	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	☐
☒	☐	Form BCE - Baghouses Control Equipment	☐
☐	☒	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability	☐

DEQ USE ONLY

Date Received

RECEIVED
APR - 3 2007
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE PROGRAM

Project Number

Payment / Fees Included?
Yes ☒ No ☐

Check Number

DE/AFS/SF

General Information **Form GI**

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 1
01/11/07

Please see instructions on page before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
Company Name	Idaho Supreme Potatoes, Inc.
Facility Name (if different than #1)	Firth Facility
Facility I.D. No.	011-00013
Brief Project Description:	Tier II PTC application to modify boiler operations
FACILITY INFORMATION	
Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
Primary Facility Permit Contact Person/Title	Wade Chapman- General Manager
Telephone Number and Email Address	208.346.6841 wade@idahosupreme.com
Alternate Facility Contact Person/Title	Steven Boodry- Plant Engineer
Telephone Number and Email Address	208.346.6826 sboodry@idahosupreme.com
Address to which permit should be sent	PO Box 246
City/State/Zip	Firth, ID 83236
Equipment Location Address (if different than #9)	
City/State/Zip	
Is the Equipment Portable?	☐ Yes ☒ No
SIC Code(s) and NAISC Code	Primary SIC: 2034 Secondary SIC (if any): NAICS: 311423
Brief Business Description and Principal Product	Dehydrated Potato Processing Plant
Identify any adjacent or contiguous facility that this company owns and/or operates	
PERMIT APPLICATION TYPE	
1. Specify Reason for Application	☐ New Facility ☐ New Source at Existing Facility ☒ Modify Existing Source: Permit No.: 011-00013 Date Issued: June 7, 2002 ☐ Unpermitted Existing Source: ☐ Required by Enforcement Action: Case No.:
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
2. Responsible Official's Name/Title	Wade Chapman- General Manager
3. RESPONSIBLE OFFICIAL SIGNATURE	Date: 3-30-2007
4. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.	

RECEIVED
APR - 3 2007
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE AIR PROGRAM

DEQ AIR QUALITY PROGRAM
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For assistance, call the
Air Permit Hotline – 877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 1
01/11/07

Please see instructions on page before filling out the form.

IDENTIFICATION		
Company Name: Idaho Supreme Potatoes Inc.	Facility Name: Firth Facility	Facility ID No: 011-00013
Brief Project Description:	Tier II PTC application to modify boiler operations	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

Boiler (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

1. Type of Request ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a unit with Permit #:011-00013		
2. Use of Boiler: ☒ 100 % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:		
3. Boiler ID Number: Boiler #4	4. Rated Capacity: ☒ 140 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
5. Construction Date: 1983	6. Manufacturer: Bigelow	7. Model: Coen 200 Series FYR W
8. Date of Modification (if applicable): May 2007	9. Serial Number (if available):	10. Control Device (if any):Low NOx burner and Baghouse **Note: Attach applicable control equipment**

FUEL DESCRIPTION AND SPECIFICATIONS

11. Fuel Type	☒ Diesel Fuel (# 2) (gal/hr)	☒ Natural Gas (cf/hr)	☒ Coal (unit: lb /hr)	☒ Residual Oil (#4-6) (unit: gal /hr)
12. Full Load Consumption Rate	650	136,319	10,796	650
13. Actual Consumption Rate	650	136,319	10,796	650
14. Fuel Heat Content (Btu/unit, LHV)	91,500	1,027	12,968	150,000
15. Sulfur Content wt%	0.5	0.003	0.5	0.5 - 1.69
16. Ash Content wt%	0.01	N/A	9.43	0.05

STEAM DESCRIPTION AND SPECIFICATIONS

17. Steam Heat Content	NA	NA	1,400 Btu/lb	NA
18. Steam Temperature (°F)	N/A	N/A	370	NA
19. Steam Pressure (psi)	N/A	N/A	180	NA
20. Steam Type	N/A	N/A	☒ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.): Diesel-5.69 MMgal/yr Nat Gas-981 MMscf/yr Coal-47,286 ton/yr Res Fuel Oil- up to 5.69 MMgal/yr

22. Operating Schedule (hours/day, months/year, etc.): Diesel-8,760 hr/yr Nat Gas-8,760 hr/yr Coal- 8,760 hr/yr Res Fuel Oil- 2,777 to 8,760 hr/yr

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IDENTIFICATION		
Company Name: Idaho Supreme Potatoes Inc.	Facility Name: Firth Facility	Facility ID No: 011-00013
Brief Project Description:	Tier II PTC application to modify boiler operations	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

Boiler (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

1. Type of Request ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a unit with Permit #:011-00013		
2. Use of Boiler: ☒ 100 % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:		
3. Boiler ID Number: Boiler #3	4. Rated Capacity: ☒ 43 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
5. Construction Date: July 1977	6. Manufacturer: Cleaver Brooks	7. Model: WT200X-BR3
8. Date of Modification (if applicable): May 2007	9. Serial Number (if available):	10. Control Device (if any):Low NOx burner **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

11. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☒ Propane (unit: gal /hr)
12. Full Load Consumption Rate		42,745		320
13. Actual Consumption Rate		42,745		320
14. Fuel Heat Content (Btu/unit, LHV)		1,027		2,524
15. Sulfur Content wt%		0.003		1.1E-05
16. Ash Content wt%		N/A		N/A

STEAM DESCRIPTION AND SPECIFICATIONS

17. Steam Heat Content	NA	NA		NA
18. Steam Temperature (°F)	N/A	N/A		N/A
19. Steam Pressure (psi)	N/A	N/A		N/A
20. Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):
22. Operating Schedule (hours/day, months/year, etc.): 24 hr/day 7 days/wk 52 wk/yr

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IDENTIFICATION			
Company Name: Idaho Supreme Potatoes, Inc.	**Facility Name:** Firth Facility	**Facility ID #:** 011-00013	
Brief Project Description: Tier II PTC application to modify boiler operations			

IDENTIFICATION				BAGHOUSE			BAGS			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Emission Unit	**EU ID No.**	**CE ID No.**	**Stack ID No.**	**Baghouse Manufacturer**	**Baghouse Model No.**	**Type**	**Type**	**Size (Dia x Ht)**	**No. of Bags**	**Air to Cloth**
Boiler #4	B4	B4BH	B4	MikroPul	7141J(6)-12-17 TRH	Or Equivalent	Rayton Felt	4.5in x 12ft	714	2.59:1

Facility-wide emission Inventory - Criteria Pollutants - Point Sources **Form EI-CP1**

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502	**PERMIT TO CONSTRUCT APPLICATION**
Company Name:	Idaho Supreme Potatoes, Inc.	
Facility Name:	Firth Facility	
Facility ID No.:	011-00013	
Brief Project Description:	Tier II PTC application to modify boiler operations	

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_x		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Boiler #4	B4	13.16	32.74	172.46	413.76	30.55	133.81	11.45	50.15	0.75	3.28		
Boiler #3	B3	0.32	1.42	0.03	0.11	6.08	26.63	3.59	15.73	0.24	1.00		
Fluidized Bed Dryer	FBD	0.71	3.11	0.00	0.02	1.10	4.82	0.57	2.50	0.04	0.18		
National Dryer Stage A	Nat Dry A	0.06	0.26	0.01	0.02	0.78	3.42	0.65	2.85	0.04	0.19		
National Dryer Stage B	Nat Dry B	0.02	0.11	0.00	0.01	0.31	1.36	0.26	1.14	0.02	0.07		
National Dryer Stage C	Nat Dry C	0.02	0.11	0.00	0.01	0.31	1.36	0.26	1.14	0.02	0.07		
Secondary Dryer (1st vent)	Sec. Dry 1	0.00	0.17	0.00	0.00	0.03	0.12	0.02	0.10	0.00	0.01		
Secondary Dryer (2nd vent)	Sec. Dry 2	0.00	0.17	0.00	0.00	0.03	0.12	0.02	0.10	0.00	0.01		
Silo Storage A	Silo A	0.06	0.28										
Storage Silo B	Silo B	0.06	0.28										
Storage Silo C	Silo C	0.06	0.28										
Silo Storage D	Silo D	0.06	0.28										
Storage Silo E	Silo E	0.06	0.28										
Storage Silo F	Silo F	0.06	0.28										
Storage Silo G	Silo G	0.06	0.28										
Silo Storage H	Silo H	0.06	0.28										
Storage Silo I	Silo I	0.06	0.28										
Silo Storage J	Silo J	0.06	0.28										
Process National Dryer Stage A	P Nat Dry A	0.38	1.29										
Process National Dryer Stage B	P Nat Dry B	0.38	1.29										
Process National Dryer Stage C	P Nat Dry C	0.38	1.29										
Total		16.07	44.78	172.50	413.93	39.19	171.63	16.82	73.71	1.11	4.81		

Facility-wide emission Inventory - Criteria Pollutants - Point Sources **Form EI-CP1**

	DEQ AIR QUALITY PROGRAM 1410 N. Hilton Boise, ID 83706 For assistance: (208) 373-0502	**PERMIT TO CONSTRUCT APPLICATION**
Company Name:	Idaho Supreme Potatoes, Inc.	
Facility Name:	Firth Facility	
Facility ID No.:	011-00013	
Brief Project Description:	Tier II PTC application to modify boiler operations	

SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - POINT SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_x		CO		VOC		Lead	
Emissions units	Stack ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Source(s)													
Dehydration Lines (Total)													
Flaker #1	Flake 1	0.38	1.29										
Flaker #2	Flake 2	0.38	1.29										
Flaker #3	Flake 3	0.38	1.29										
Flaker #4	Flake 4	0.38	1.29										
Flaker #5	Flake 5	0.38	1.29										
Flaker #6	Flake 6	0.38	1.29										
Flaker #7	Flake 7	0.38	1.29										
Flaker #8	Flake 8	0.38	1.29										
Flaker #9	Flake 9	0.38	1.29										
Flaker #10	Flake 10	0.38	1.29										
Flaker #11	Flake 11	0.38	1.29										
Flaker #12	Flake 12	0.38	1.29										
Secondary Dryer (1st vent)	Sec Dry 1	0.38	1.29										
Secondary Dryer (2nd vent)	Sec Dry 2	0.38	1.29										
Space Heater South	Space S	0.06	0.18	0.00	0.02	0.80	2.43	0.67	2.00	0.04	0.12		
Space Heater North	Space N	0.06	0.18	0.00	0.02	0.80	2.43	0.67	2.00	0.04	0.12		
Space Heater East	Space E	0.11	0.34	0.01	0.03	1.50	4.53	1.30	3.80	0.01	0.24		
Miscellaneous Space Heater	Space Misc.	0.02	0.06	0.00	0.00	0.20	0.60	0.17	0.51	0.01	0.03		
Storage Tanks	Tanks										0.06		
Total		5.50	18.82	0.02	0.06	3.30	10.00	2.81	8.31	0.10	0.57		

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SUMMARY OF FACILITY WIDE EMISSION RATES FOR CRITERIA POLLUTANTS - FUGITIVE SOURCES

		3.											
1.	2.	PM_{10}		SO_2		NO_x		CO		VOC		Lead	
Fugitive Source Name	Fugitive ID	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Fugitive Source(s)													
Paved Roads	Roads		2.50										
... (insert more rows as needed)													
Total			2.50										

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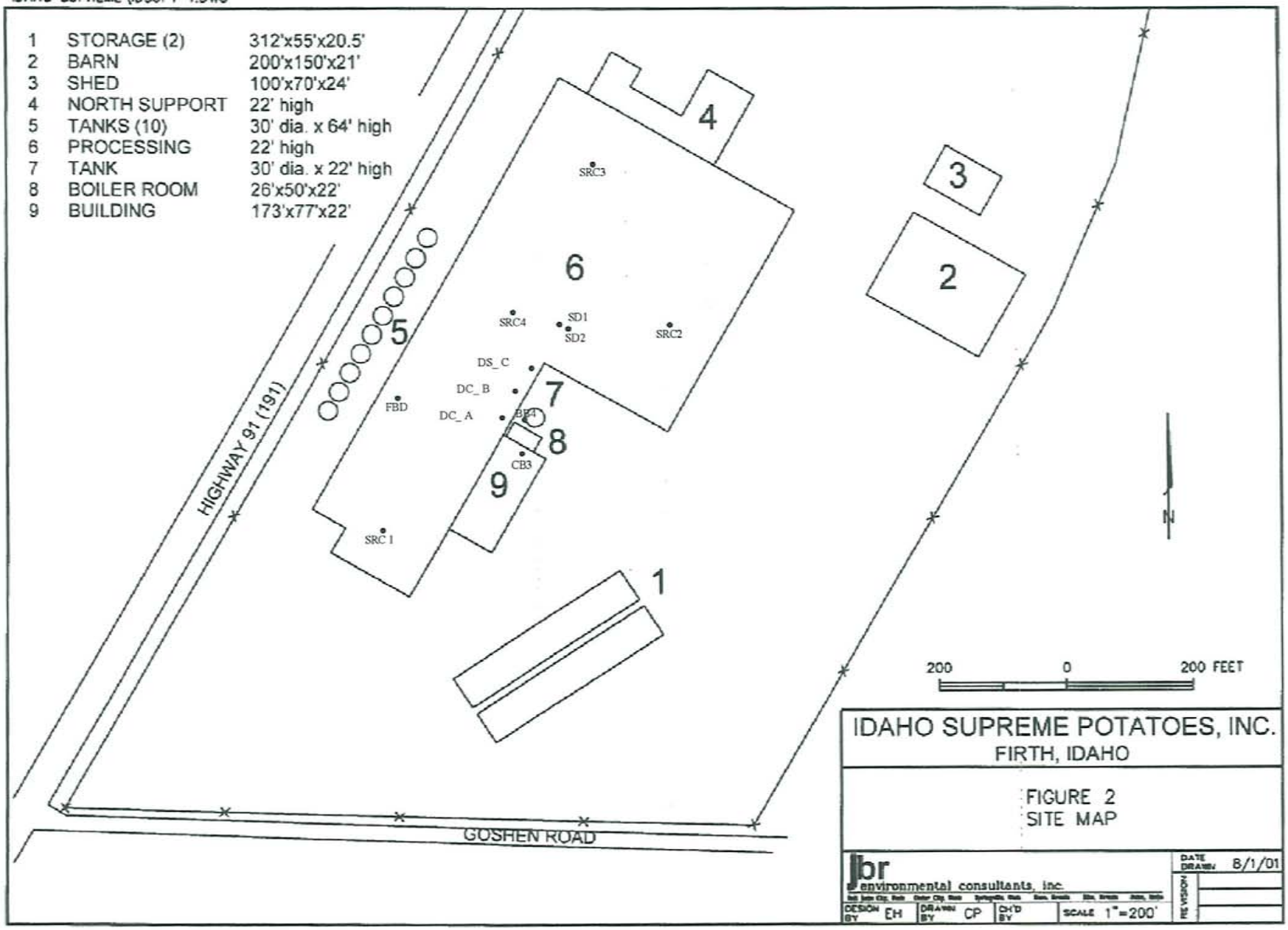

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SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (µg/m3)**	**Significant Contribution Level (µg/m3)**	**Full Impact Analysis Results (µg/m3)**	**Background Concentration (µg/m3)**	**Total Ambient Impact (µg/m3)**	**NAAQS (µg/m3)**	**Percent of NAAQS**
PM_{10}	24-hour	5.32	5	68.20	73.00	141.20	150	94%
	Annual	0.65	1				50	0%
SO_2	3-hr		25	425.00	34.00	459.00	1300	35%
	24-hr		5	104.00	26.00	130.00	365	36%
	Annual		1	15.80	8.00	23.80	80	30%
NO_2	Annual	0.00	1				100	0%
CO	1-hr	0.00	2000				10000	0%
	8-hr	0.00	500				40000	0%

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POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	.7	8.	9.	10.
Emissions units	Stack ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Stack Height (m)	Modeled Diameter (m)	Stack Exit Temperature (K)	Stack Exit Flowrate (acfm)	Stack Exit Velocity (m/s)	Stack orientation (e.g., horizontal, rain cap)
Point Source(s)										
Boiler #4	BB4	See electronic modeling files			12.29	0.91	463.60	32,000.00	23.22	V
Boiler #3	CB3	See electronic modeling files			10.36	0.88	568.80	1,300.00	10.08	V
Fluidized Bed Dryer	FBD	See electronic modeling files			8.60	1.04	321.00	26,000.00	14.40	V
National Dryer Stage A	DS_A	See electronic modeling files			8.00	0.70	366.30	8,500.00	10.42	V
National Dryer Stage B	DS_B	See electronic modeling files			8.00	0.70	366.30	7,500.00	9.20	V
National Dryer Stage C	DS_C	See electronic modeling files			8.00	0.70	366.30	7,500.00	9.20	V
Secondary Dryer (1st vent)	SD1	See electronic modeling files			7.68	0.76	293.15	7,000.00	7.28	V
Secondary Dryer (2nd vent)	SD2	See electronic modeling files			7.68	0.76	293.15	7,000.00	7.28	V
Silo Storage A	Silo A	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo B	Silo B	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo C	Silo C	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Silo Storage D	Silo D	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo E	Silo E	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo F	Silo F	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo G	Silo G	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Silo Storage H	Silo H	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Storage Silo I	Silo I	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V
Silo Storage J	Silo J	See electronic modeling files			22.43	0.24	366.48	750.00	7.58	V

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Facility Name:	Firth Facility	
Facility ID No.:	011-00013	
Brief Project Description:	Tier II PTC application to modify boiler operations	

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	.7	8.	9.	10.
Emissions units	Stack ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Stack Height (m)	Modeled Diameter (m)	Stack Exit Temperature (K)	Stack Exit Flowrate (acfm)	Stack Exit Velocity (m/s)	Stack orientation (e.g., horizontal, rain cap)
Point Source(s)										
Flaker #1	FL1	See electronic modeling files			9.83	1.14	293.00	9,935.00	16.10	V
Flaker #2	FL2	See electronic modeling files			9.83	1.14	293.00	9,935.00	16.10	V
Flaker #3	FL3	See electronic modeling files			9.83	1.14	293.00	9,935.00	16.10	V
Flaker #4	FL4	See electronic modeling files			9.83	1.14	293.00	9,935.00	16.10	V
Flaker #5	FL5	See electronic modeling files			7.68	0.63	293.00	10,333.00	15.64	V
Flaker #6	FL6	See electronic modeling files			8.29	0.76	293.00	10,793.00	11.00	V
Flaker #7	FL7	See electronic modeling files			8.29	0.76	293.00	10,793.00	11.00	V
Flaker #8	FL8	See electronic modeling files			8.29	0.76	293.00	10,793.00	11.00	V
Flaker #9	FL9	See electronic modeling files			9.83	0.61	293.00	10,793.00	16.00	V
Flaker #10	FL10	See electronic modeling files			9.83	0.61	293.00	10,793.00	16.00	V
Flaker #11	FL11	See electronic modeling files			9.83	0.61	293.00	10,793.00	16.00	V
Flaker #12	FL12	See electronic modeling files			9.83	0.61	293.00	10,793.00	16.00	V

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FUGITIVE SOURCE PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
Emissions units	Stack ID	UTM Easting (m)	UTM Northing (m)	Base Elevation (m)	Release Height (m)	Easterly Length (m)	Northerly Length (m)	Angle from North (°)	Initial Vertical Dimension (m)	Initial Horizontal Dimension (m)
Area Source(s)										
Volume Source(s)										
Space Heater S	SRC1	See electronic modeling files			25.00				5.58	30.48
Space Heater N	SRC2	See electronic modeling files			25.00				5.58	30.48
Space Heater E	SRC3	See electronic modeling files			25.00				5.58	30.48
Space Heater W	SRC4	See electronic modeling files			25.00				5.58	30.48
(insert more rows as needed)										

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BUILDING AND STRUCTURE INFORMATION

1.	2.	3.	4.	5.	6.	7.
Building ID Number	**Length (ft)**	**Width (ft)**	**Base Elevation (m)**	**Building Height (m)**	**Number of Tiers**	**Description/Comments**
Building #1	312.00	55.00	1392.60	6.25	1	Storage Building 1
Building #1A	312.00	55.00	1392.60	6.25	1	Storage Building 1A
Building #2	200.00	150.00	1392.60	6.40	1	Barn
Building #3	100.00	70.00	1392.60	7.30	1	Shed
Building #4	224.00	122.00	1392.60	6.71	1	North Support
S-1	Circular	30.00	1392.90	19.51	1	Silo A
S-2	Circular	30.00	1392.90	19.51	1	Silo B
S-3	Circular	30.00	1392.90	19.51	1	Silo C
S-4	Circular	30.00	1392.90	19.51	1	Silo D
S-5	Circular	30.00	1392.90	19.51	1	Silo E
S-6	Circular	30.00	1392.90	19.51	1	Silo F
S-7	Circular	30.00	1392.90	19.51	1	Silo G
S-8	Circular	30.00	1392.90	19.51	1	Silo H
S-9	Circular	30.00	1392.90	19.51	1	Silo I
S-10	Circular	30.00	1392.90	19.51	1	Silo J
Tank	Circular	30.00	1392.90	6.71	1	Tank 7
Building #6	820.00	420.00	1392.90	6.71	1	Processing Building
Building #8	26.00	50.00	1392.90	6.71	1	Boiler Room
Building #9	173.00	77.00	1392.60	6.71	1	Building 9